

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
12 February 2004 (12.02.2004)

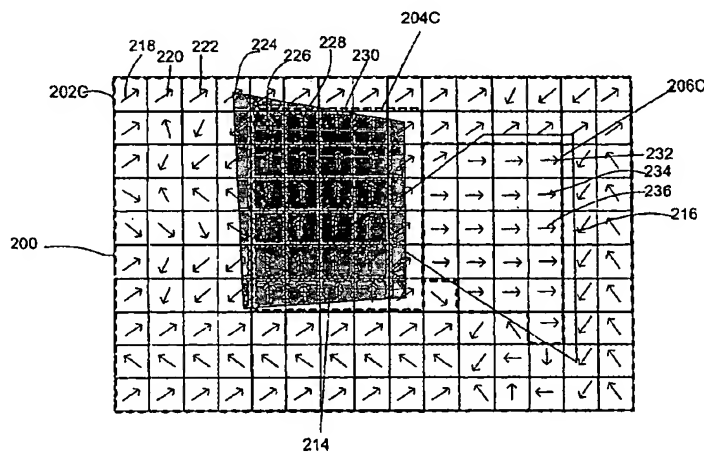
PCT

(10) International Publication Number
WO 2004/013810 A1

- (51) International Patent Classification⁷: G06T 5/00, 7/20, H04N 7/26
- (21) International Application Number: PCT/IB2003/003185
- (22) International Filing Date: 11 July 2003 (11.07.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 02078116.7 31 July 2002 (31.07.2002) EP
- (71) Applicant (for all designated States except US): KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): VAREKAMP, Christiaan [NL/NL]; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). PIEK, Matthijs, C. [NL/NL]; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). BRASPENNING, Ralph, A., C. [NL/NL]; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (74) Agent: GROENENDAAL, Antonius, W., M.; Philips Intellectual Property & Standards, Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report

[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR SEGMENTING



(57) Abstract: A segmentation system (100) for segmenting a first image feature (214) in a first video image from an adjacent second image feature (216) in the first video image on basis of motion and on an image property like color or luminance. The segmentation system (100) comprises; a block-based motion estimator (102) for estimating motion vectors (218-230) for blocks of pixels; a motion segmentation unit (104) for segmenting the first video image into a first group of connected blocks of pixels (204) and a second group of connected blocks of pixels (206) on basis of the motion vectors (218-230) of the respective blocks of pixels; and a pixel-based segmentation unit (106) for segmenting the first image feature (214) from the second image feature (214) by means of a pixel-based segmentation of a portion of the blocks of pixels of the first and second group of connected blocks of pixels (214 and 216), on basis of the respective values of the image property.

WO 2004/013810 A1

Best Available Copy